

14. (New) A rotating table apparatus according to Claim 12 wherein said rotating table is provided with a chuck for chucking a workpiece to be a processing object.

---

### REMARKS

Claims 1-7 were rejected under 35 U.S.C. §103(a) as being unpatentable over JP 2-37156 in view of Inaba et al. In this regard, the Examiner noted that JP 2-37156 teaches the claimed device wherein a "tool or the like" has a rotating table "driven by a worm drive and cam". The Examiner further notes that Inaba et al. teaches a gap provided between movable parts in a "rotating table" that may be filled with oil so that the "indexing operation will be smoothly carried out due to the dampening action of the oil". Thus, the Examiner concluded that one possessing ordinary skill in the art would be expected to modify the teachings of JP 2-37156 with the teachings of Inaba et al. to achieve the benefits of enhanced indexing table rotation.

While Applicant has opted to cancel Claims 1-7 replacing them with Claims 8-14, thus rendering the rejections moot, Applicant has addressed the Examiner's proposed combination of JP 2-37156 with Inaba et al. as may apply to new Claims 8-14.

Claim 8 represents an improvement over JP 2-37156 in that a rotating table apparatus is provided with improved accuracy through the use of oil in a space occurring between the opposing surface and the end surface to swiftly and consistently dampen oscillation generated in a rotating table. Inaba et al. appears to be cited because of its disclosure of oil provided in a gap "G" between a lower base 22 and a plate member 26, thus allowing for a smooth indexing action due to the damping action

of the oils. Initially, Applicant suggests that one of ordinary skill in the art would not consider combining the teachings of Inaba et al. with JP 2-37156 where the use of oil for damping under Inaba et al. is only summarily suggested.

Applicant respectfully submits that even if the teachings of JP 2-37156 and Inaba et al. are combined, the combination falls short of the invention defined under new Claim 8 in that the rotatable tool apparatus includes an invariable space which receives oil between an opposing surface and end surface of the rotating table for swiftly damping oscillation at any time.

Under Inaba et al., a space does not invariably exist between a rotating table (such as a turn table 30 and a mole screw element 26 with "rotate" as one) and a covering plate 50 (as in the case that the lower surface of the rotating table corresponds to the end surface). The "space" only exists between the rotating table and the covering plate 50 when the rotating table is rotated. The "space" does not exist when the lower surface of the rotating table is touching the upper surface of the covering plate 50 when rotation of the rotating table begins and when rotation ends. At these times, the advantage of damping with oil is not available.

The availability of damping with oil is especially important at the beginning and end of the table rotation since a larger amount of torque occurs when the rotating table is accelerated and decelerated.

### **CONCLUSION**

In view of the newly presented claims and the foregoing remarks, Applicant respectfully submits that the present application is now in condition for allowance.

Thus, prompt and favorable consideration of this amendment is respectfully requested.  
If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: December 30, 2002

By: Robert M. Siminski  
Robert M. Siminski  
Reg. No. 36,007

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600